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ABSTRACT

This report contains a description and evaluation of a program for prekindergarten children who are identified as needing compensatory or corrective treatment. The program, in operation for nearly 8 years, can accommodate 60 children. Description of the instructional program was obtained through participant observation, photography, and audio tape analyses of teaching skills which facilitated children's social and cognitive development. Participant observers concentrated on interaction patterns among children and between children and teachers. The description reveals that the predominant instructional skills were telling, explaining, clarifying, and questioning (these terms are defined). Student outcomes were assessed using the Denver Developmental Screening Test and the Cognitive, Speech and Language sections of the Evanston Screening Packet. Prekindergarten children did significantly better on two of the 32 tasks of the DDST; while children without prekindergarten did significantly better on four of them. It was felt that the program successfully modified and reduced deficiencies that may have existed in the experimental children. Recommendations are made. Appendixes (nearly one-half of the report) include a rationale for descriptions of the instructional program and copies of the screening instruments used. (Authors/ED)

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Hamburg Central School District
New York State Experimental Pre-Kindergarten Program
Early Childhood Center
Hamburg, New York

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Pre-Kindergarten Program Evaluation June 1974

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ABSTRACT

This evaluation of the Hamburg, New York State Experimental Pre-Kindergarten Program is a descriptive report of the instructional program as well as a comparison of selected student outcomes.

Description of the instructional program was obtained through participant observation, photography and audio tape analyses of teaching skills according to the use of instruction facilitative of children's social and cognitive development. The description reveals that the predominate instructional skills were telling, explaining, clarifying and questioning. Participant observers concentrated on interaction patterns among children and between children and teachers. The data revealed that children had a wide variety of choices. The photographic data illustrated the richness of the environment. Rather infrequently did teachers help students make choices, clarify feelings and extend ideas into art, music, dance and drama.

Student outcomes were assessed using the Denver Developmental Screening Test and the Cognitive, Speech and Language sections of the Evanston Screening Packet. The pre-kindergarten children did significantly better on two of the thirty-two tasks of the DDST. Children without pre-kindergarten did significantly better on four of the thirty-two tasks. Those with pre-kindergarten were significantly better on two fine motor tasks; those without pre-kindergarten were significantly better on three gross motor tasks and one (defines words) language task. There were no significant differences on the Evanston Screening Packet.

To the extent that the respective groups represent the children with and children without pre-kindergarten experience, the program successfully modified and reduced deficiencies that may have existed and made it possible for the pre-kindergarten child to enter kindergarten on an equal footing with his age mates.

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INTRODUCTION

The Hamburg Central School District, New York State Experimental Pre-Kindergarten Program (Early Childhood Center) was founded in 1966. The Center is housed in the educational wing of Trinity Episcopal Church. The broad goals of the Early Childhood Center are simply to develop a quality program based upon the existing and emerging knowledge of child development. More specific goals pertain to identifying children with particular educational needs and modifying, if not reducing, deficiencies resulting from unfilled needs. This document is an evaluation of the Early Childhood Center toward the end of its eighth year of operation.

This document and its preparation was different from many conventional evaluation procedures. First, it was initiated by the Center staff in collaboration with the Hamburg School District administration. Second, it inquires into both children's learning and teachers' instruction. Third, it deeply involved the evaluation team in experiencing the program and interacting with children. The first difference undoubtedly speaks to the willingness and maturity of a staff that desires to know if they make a difference. The second suggests comprehension of the many facets of learning, teaching, and evaluation. The third permits evaluators to equally experience the program at some risk to objectivity. Risks and investments are often necessary to describe and share the perspectives of teachers, program directors, administrators, and evaluators. However, the rigorous test data will speak for itself. The observational and tape analyses were coded with high reliability. Without a doubt, the

evaluators shared the staff good will, commitment to children and search for a "better way." This was an attractive role and not resisted by the evaluation team. With this caution, the data will speak for itself and the writers will endeavor to be as descriptive as their skills permit.

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SECTION 1

Overview

Evaluation of the Early Childhood Center focuses upon five objectives:

1. To screen and identify pre-school children needing compensatory education on a multi-dimensional basis.
2. To create a classroom environment which encourages social-emotional and cognitive development.
3. To sustain an individualized learning program for each child.
4. To modify the educational deficiencies of children selected for pre-kindergarten.
5. To provide kindergarten teachers a comprehensive anecdotal record for each child.

A program based on the above objectives is also based upon several assumptions and values: that social-emotional and cognitive growth are developmental; that children's learning is unique with respect to their own style, pace and capacity; that differences attributable to lack of experience can be reduced or modified by an educational program. These assumptions and the program objectives above provided the basis for the evaluation of the Early Childhood Center. Together they direct attention to the learner's experience, the instructional program and the learner's growth and development.

In addition, the Center staff formulated several basic questions that they considered important and answerable.

1. What are the goals of the program?

2. Are the goals broadly conceived, yet attainable?

3. Is the curriculum established for the program consistent with the stated goals?

4. Are the experiences provided challenging yet suitable for the age range of the children?

5. Is there sufficient variety in instructional method?

6. Do the methods of instruction allow for personal exploration and freedom?

7. Are the children free of undue pressure?

8. Are children treated with respect?

9. Is play used to support children's learning?

10. Is the program organized to allow for individual differences in pace, style, and capacity?

11. How effective is the program in achieving its total range of goals?

The primary objectives are based upon developmental psychology; developmental psychology adheres to an invariant sequence in stages of growth that are related to both genetic and experiential factors. Therefore, parents and teachers may facilitate development of a child's potentialities by providing quality experiences. What are these experiences? They may be logically derived from a description of the social and cognitive stages of growth.

Inasmuch as three objectives, numbers 2, 3, and 4, pertain to children's development, Erikson's description of social development and Piaget's descriptions of cognitive development were selected as a basis for this part of the evaluation. In order to collect information related to objective 2, each of the four classes were observed three times and a number of photographs were taken to both describe and show the activity patterns in the classroom and the choices available to children. Summary descriptions of observational and photographic data were compared to the

ideal classroom environment as logically derived from developmental stage literature (see Appendix A). A judgement was made regarding how well the classroom approximated this ideal type environment.

Individualization of the program (objective #3) was evaluated according to whether children individually interacted with teachers, made choices about their activities, and engaged in clarifying and thinking processes. These are fundamental processes which assure that children's learning style, pace and potentialities are accommodated in an instructional setting. The observational data and photographic material were studied for activity patterns and evidence of the choices available. Furthermore, audio-tape recordings of teaching were made and coded to assess whether the teaching skills exhibited were associated with the respective stages. Three tapes of each team were made, coded and quantified according to teaching behaviors (see Tables 1, 2, 3, and 5, 6, 7). The patterns of teacher-pupil communication, choice-making, use of clarifying responses and thinking questions provided the data base for judging individualization.

Evaluation of objective 4, to modify deficiencies in selected children's social-emotional and cognitive development, was achieved by using the Denver Developmental Screening Test and the cognitive section of the Evanston Screening Packet. The 1973-74 pre-kindergarten class and a random sample of non pre-kindergarten children, who are also entering kindergarten (present 5 year olds), were tested and compared for significant differences in social-emotional, motor and cognitive development. The entering 1973-74 pre-kindergarten class (present 4 year olds) were also tested. To the extent that these children represent the respective groups, significant differences would indicate whether the pre-school did

or did not modify or reduce deficiencies.

Objective 5, to provide kindergarten teachers with a comprehensive anecdotal record of each child, was evaluated by judging the completeness of the children's folders sent on to kindergarten teachers. Complete folders contained cognitive, social emotional, physical and historical data.

The objective to screen and identify pre-school children needing compensatory education on a multi-dimensional basis was evaluated by comparing the extent to which the screening process used by the Center takes into account cognitive and motor development, social emotional and socio-economic factors.

The eleven staff questions were answered by comparing the Center program to the ideal standards implied and looking at the total weight of the evidence for the answer. Question one asks what the goals of the Center program are. If the goals are clearly stated in Center documents and teachers know what they are, question one is answered. Boradly conceived goals means that these statements deal with social, emotional, physical and cognitive growth, not growth in cognition alone. Assuming that the curriculum can be observed and/or looked at in writing, and it was, it is possible to use the tape and observational data to determine consistency with stated goals. If children's experiences are challenging and suitable for their age range, the data will show that learning activities are completed; pictures of the classroom and notes by participant observers will not reveal random behavior or boredom. A wide variety of children's products in evidence, abundant equipment and supplies in the classroom as well as direct observation of teaching will suggest a variety of teaching methods. For instruction to be individualized (questions 6 and 10) it must be developmentally conceived and

implemented with an underlying order to it. Data from a variety of sources is used to answer these questions. Whether children are free of undue pressure and whether or not play is used to support learning can be directly studied by using participant observer notes and looking at classroom photos. Whether children are treated with respect can be heard on the audio tapes collected during actual class sessions. The final question requires an answer based on the total weight of all the evidence collected. Answers to questions 1 - 10 will reveal how effective the program is.

The preceeding paragraphs give some idea of how information was collected and judgements made. The results of this effort will be contained in detail in the following sections of this report which include: Early Childhood Center Organization and Home School Program, A Description of the Instructional Program, Pre-Kindergarten Student Outcomes and Conclusions and Recommendations.

SECTION 2

Center Organization and Home School Program

The Early Childhood Center consists of four classes of approximately fifteen students each for a total of sixty students. All children going to kindergarten the following year are eligible for pre-school. However, the final selection of children is based upon results of the Denver Developmental Screening Test, socio-economic factors and home visitations. In particular, children who need compensatory or corrective treatment are selected. The Denver test measures the child's personal-social, language and motor development. Home visits are made to determine the interest and commitment of parents or guardians. Testing, home visits and the selection process are considered initial aspects of the program which continues as a comprehensive home, school and community endeavor.

Parents are asked to share the objectives of the Center staff. Concern for social-emotional and cognitive development is manifest during the home visits as well as during pre-school meetings. Regular parent meetings, held in the Center, deal with common problems of parents and teachers. Various local service agencies acquaint parents with resources available in the community. In the homes, staff visitors lend a sympathetic ear and assist the child and his family. Every effort is made to increase the sensitivity of the Center staff to the opportunities and problems within the child's home affecting his development. Every opportunity is extended to parents as they are helped to feel secure in

an equalitarian relationship.

A comprehensive diagnostic and intervention program for each child is initiated and sustained during the school year, beginning with a complete physical examination. Follow-up care is provided, if needed. Screening tests are used to plan the child's individual program. Anecdotal records are maintained and regularly reviewed to update the child's program. Parents are invited to help in the Center in order to see the procedures and, hopefully, use some of them at home.

Home and Center are not viewed independently. Rather, the parent program is designed to share the mutual concerns and benefit of the child's development. For the child's development is the commonly held goal as well as the source of his competence and freedom. Thus, the need for integrating home and Center program.

SECTION 3

Description of the Instructional Program

Three procedures were used to obtain a comprehensive description of the instructional program. First, audio-tape recordings were made to obtain and store a sample of verbal interactions. Second, observational notes were made to record the ebb and flow of activity. Third, photographs were taken to record visual data. These three procedures were selected so that the evaluation team could focus independently upon the merits of the respective procedures. Together they provided a comprehensive source of data to describe the pre-kindergarten program.

As noted, the audio-tapes provided a sample of the verbal communication between staff and children. Tapes were coded and analyzed for the frequency with which certain skills facilitative of children's social and cognitive growth were used. The analysis of verbal interaction was based upon certain assumptions regarding child growth and development.

1. Growth is a function of inborn capacities and potentialities in interaction with the learner's environment.
2. There is a mutually beneficial relationship between adult's instruction and children's learning.
3. This mutually beneficial relationship pertains to the continued growth and development of both teachers and learners. Specifics may be derived from stages of social and cognitive development.

4. There is a developmental sequence of social (ego strengths) development and cognitive abilities that teachers must accommodate.

5. It is the role of the teacher to create an interactive environment in which the child may develop his capacities and potentialities to communicate, choose, initiate, do and value. Equal consideration must be given to cognitive growth.

6. Inasmuch as most children come to the school in the third and fourth stages of development, the teacher must reuse the complementary instructional interactions pertaining to every stage in order to assess and mutually relate to children of different capacities and potentialities.

7. If learning (growth) is a function of the individual's inborn capacities and potentialities in interaction with the environment, the teacher's primary responsibility is to increase the supportativeness of the environment and instruction at the child's functional level. A supportative school and home environment increases the probability that the child will develop normally.

The above assumptions have rather far-reaching implications for teachers and learners. It is sufficient here to state that specific instructional skills have been identified which facilitate continued growth and development among teachers and pupils.* The skills facilitative of social development deal with communicating, decision-making, reflecting and doing. Definitions of the specific skills follow.

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*See Appendix A for a complete discussion of the categories.

Ways of Communicating

Telling: Teacher talk providing information that throws light on activities, ideas, interests, attitudes and purposes.

Explaining: Teacher talk that describes relationships between two or more factors that are involved in a situation.

Showing how: Teacher talk and actions that simultaneously assist the child with the ways (procedures and processes) of task accomplishment.

Demonstrating: Simultaneous teacher description of the ways (procedures and processes) of task accomplishment while manipulating relevant objects or materials.

Praising: Positive verbal support by teachers to a pupil attribute or response.

Enthusiasm: Verbal response by the teacher indicating an intense interest in child's action or presen

Ways to Structure Decision-Making

Referring to rules: Teacher description or instruction about expectations.

Specifying activity: Teacher description of the alternatives available to a student.

Providing alternatives: Instruction that culminates in logical extensions into two or more follow-up activities from which the student may choose.

Articulating: Systematically relating a single activity that a child may choose to another activity or event.

Using humanities: Extending activities or ideas into art, music, dance, or drama.

Ways to Encourage Reflection

Examining roles: Teacher talk directed to stimulate thinking about relationships between self and others.

Practicing: Teacher talk directed to stimulate thinking about gaining control or experience with a skill.

Perfecting: Teacher talk directed to stimulate thinking about gaining excellence with a skill.

Clarifying: Teacher talk directed to stimulate controlled thinking about relationships between ideas and events.

Leading: Teacher talk about initiating activities and consumating activities into task accomplishment.

Social Development and Pre-Kindergarten Instructional Frequencies

Analysis of instructional skills according to the categories outlined in the preceeding section was obtained from twelve audio-tapes of class sessions which contained the instructional dialogue of the Center staff. Three tapes were made by each of the four teams. One tape was too distorted for analysis and therefore was not used.

After training in the use of the coding system, two transcribed tapes were independently classified with discrepancies on 11 per cent of the items. These discrepancies were resolved and on a subsequent tape analysis, a reliability of .93 was achieved in coding. The remaining tapes were coded independently.

The tapes revealed that when teachers talk with children, 46.8%

of their dialogue is telling and 31% is clarifying (see Table 1). Both of these instructional skills are valuable tools in assisting social development. Instruction also incorporated explaining, praising, and reflecting upon roles and leadership acts. The mixture between telling and clarifying is interesting and typically consisted of actions and statements designed to create shared understandings interspersed with questions that required reflection and clarification. The following example illustrates.

> Let's see if these boys know what they're doing.
> I'd like to see you put the rings on each end and see if you can make it teeter totter.
> What teeter totter means is up and down, up and down.
> Do that with your hands--up and down, up and down.
> OK, hold it.
> Paul's making it go down. What do you have to do, Rick?
> Is it going to go down?
> Yes.
> Now what. Wait! Rick, Wait!
> What did Rick do that made it move?
> He put extras and it went up.
> How many extra did he put on?
> Paul had 3.
> How many did Rick put on there?
> OK, Paul, let's see you make it balance.
> What does balance mean?

The above dialogue began as Paul and Rick were placing washers on the pins of a balance. Telling provided definition of the relationship between up and down and teeter totter. Questions caused the child to reflect (think) about his actions and the event of placing weights. Furthermore, experience with the balance activity included simulating movement with their body and hands.

TABLE 1

USE OF INSTRUCTIONAL SKILLS FACILITATING SOCIAL DEVELOPMENT

Category	Frequency	Percentage
Communicating		
Telling	1106	46.8
Explaining	124	5.2
Showing How	10	.4
Demonstrating	11	.4
Praising	105	4.4
Enthusiasm	29	1.2
Decision-Making		
Specifying Activity	22	.9
Referring to Rules	21	.9
Providing Alternatives	17	.8
Articulating	3	.1
Using Humanities	17	.8
Reflecting		
Examining Roles	91	3.8
Practicing	20	.9
Perfecting	5	.2
Clarifying	735	31.0
Leading	51	2.2
	2367	100.00%

The next example includes praise and reinforcement.

Sharon, you come on over here and sit down. This is the woods over here.
Come on, Papa Bear.
(Children did their own dialogue without help after the porridge part.)
I think we should clap for them, don't you, Scott?
They did a good job.
Hollywood is calling us.
That was beautiful.
Wasn't that great?
I'll say!

The next example is typical of the many faceted conversations which teachers have while working with a group. This conversation illustrates the alternatives or choices that students have, reflecting

upon tasks or products and enthusiastic reinforcement of outcomes.

Why don't you draw a brand new picture?
I'm not sure whose it is. Probably the teacher's. OK. I guess you can put it here. Thank you, Mark.
You sure? UMM--you're right! (enthusiastic)
Did you ever make one with . . . (inaudible)?
Did you have the crayon?
Do I have the crayon? I'll give you a new box, OK?
Patricia, do you want another paper?
Uh huh.
Pick out the kind you want.
How does your friend feel?
What happened to all the drops you put on the paper the first time?
Hi, Stephanie, you want to try what we're doing?
Pick out a piece of paper. Is that the shiny kind or the other kind?

Several features are revealed by the transcript. Exchanges are brief and direct. Replies of the children are simple words or brief sentences. The dialogue, while concentrating on activity, directs the child to reflect upon his activities and products. Finally, opportunities to ask questions and explore meaning were continually available.

Another pattern included questioning and telling designed to develop clarification and sequential use of thinking and speech by reflecting upon what others would say or do.

Well, what happened then?
huff and puff.
Oh that wolf got angry and do you think he would try again when he got angry?
Yep, and did it blow in?
Well, tell me--what happened then?
What did he do?
Climbed on the roof.
Went down the chimney.
Did he go down the chimney before he climbed on the roof or after he climbed on the roof?
After he had climbed on.
And what happened when he went down the chimney?
Fell into hot water.
What do you think he said?
Owl
I think I would say that, too.

The following example includes a variety of teacher and pupil responses. The student was given an option to participate. He was also given a choice of what he could make. The instruction then switched to another student who was asked to count his tulips and name their colors. The responses were praised and his competence was affirmed.

> You can make other kinds of flowers, if you want to.
> If you want to make flowers, or something else, it's OK.
> How many tulips do you have?
> 1, 2, 3, 4, 5 tulips.
> What color?
> Very good.
> I think you can do OK.

The different instructional dialogues were classified developmentally. For example, all teacher behavior communicates something to children. Telling and explaining communicates information and relationships among information. Telling and explaining alternatives were classified as decision-making since these required the child to make a choice. Asking a child how he feels or thinks about something was classified as reflection because the student is required to process information, clarify his preference among alternatives and clarify his feelings or understandings.

The sequencing of instruction and learning has a cumulative effect. The prerequisite strength in communicating is necessary in order to make choices. Strength in communicating and choosing are necessary to reflect and respond with preference. And so it continues--stage by stage, skill by skill, the child builds upon previous skill and learning. The teacher recapitulates the processes of all stages to insure that all children have sufficient opportunity to share and experience the basic processes and experiences appropriate for cumulative growth.

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In the pre-kindergarten, the transcripts revealed that communicating and clarifying were the predominant methods of instruction. Some choices were evident.

Cognitive Development and Pre-Kindergarten Instructional Frequencies

Cognitive development parallels social development in many ways, and the assumptions about developmental stages apply equally to the stages of cognitive development. Such factors as the invariant sequence of development, cumulative effect and interactions of inborn capacities with the environment all apply. However, knowledge of one set of stages is insufficient for understanding all aspects of growth. While stages may overlap, knowledge of the stages of cognitive development is equally helpful for understanding children and planning instruction. Therefore, to gain a more complete understanding of verbal instruction in the Hamburg pre-kindergarten the transcripts were also analyzed according to the use of instructional skills facilitative of children's cognitive development. Audio-tapes were coded the second time for use of the following categories.*

Ways of Symbolically Representing Action

Telling: Teacher talk providing information that throws light on activities, ideas, interests, attitudes and purposes.

Explaining: Teacher talk that describes relationships between two or more factors that are involved in a situation.

Role-Playing: Enacting a set of actions that requires assuming the role or perspective of another.

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*See Appendix A for a more complete discussion of the categories.

Involving: Instruction eliciting the interest and active participation of another person.

Extending concepts into the humanities: Creating alternative ways of experiencing a concept through art, music, dance, and drama.

Elemental Centering: Specifying the salient characteristic of an object, person, or event.

Describing: Specifying the essential characteristics of an object, person, or event in order to share or approximate the same perceptions.

Ways of Knowing

Using two level language: Describing an object, idea or event in language with an increasing or decreasing degree of abstraction, generalization or specificity.

Showing How: Teacher talk and actions that simultaneously assist the child with the ways (procedures and processes) of task accomplishment.

Using models and manipulatives: Demonstrations in which the instructions refer to the use and presence of objects to carry out the specific actions of the object or relationships between objects.

Comprehending sequence: Eliciting the description of events or actions in their logical or chronological order.

Questioning:

Recall: Instruction eliciting the reporting of knowledge.

Thinking: Instruction eliciting the reporting of knowledge and the comprehension of the relationships between ideas and events.

Analysis of the tapes according to cognitive categories (see Table 2) revealed patterns of telling (45.8%), explaining (6.3%), and

questioning (24.2% and 8%) similar to that obtained when examining the data according to categories of social development. Verbal interaction was direct and relevant to activity. The following example illustrates telling, questioning for recall and thinking while the student was engaged in self selected activity.

What do you call the little things that move?
I don't know.
They're called teeth.
Teeth?
Teeth.
Do they look like your teeth?
Not quite.
None of the rest turn. Why is that?
You took them both out. Now when you turn this one, which one turns? Here, this little one.
I wonder if we could put something on this face if it would turn?
Oops, I dropped it accidentally.
Yes, we had an accident.
Hey, what part moved?
What's different about this one?
If I turn this one which ones are going to move?
That, that, that, and that.
Will these move if I turn this one?
No.
Why not?

During instruction the pre-kindergarten teacher is alert to varied activities in the room. The following dialogue illustrates the "quick switch" occurring when teaching children pursuing a variety of interests.

Let's see if Paul can find where that key goes.
Oops, Paul found it.
What color is that, Paul?
White.
White. Does it work in the lock?
It does.
Very good.
Pull it up.
Turn the key.
Lisa, will you show me how the teeter totter works?
We know how to do it.
What do they do?
They make one side go higher and higher.
Right.
What's happening now?
How many rings have you got there?

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TABLE 2

USE OF INSTRUCTIONAL PROCESSES FACILITATING COGNITIVE DEVELOPMENT

Category	Frequency	Percentage
Symbolic-Representational Action		
Using student ideas	70	3.3
Telling	967	45.8
Explaining	131	6.3
Role-Playing	9	.4
Involving	7	.3
Extending concepts into humanities	32	1.6
Elemental centering	7	.3
Describing	17	.8
Knowing Systems		
Two level language	2	.0
Showing how	33	1.5
Models and manipulatives	3	.2
Comprehending sequence	146	7.0
Questioning		
Recall	511	24.2
Thinking	168	8.0
	2114	100.00%

Acting out stories that were read permitted representational action and extending and reinforcing ideas with drama.

Teacher tells story and lets children fill in dialogue with help as needed.
It was just right, so Baby Bear ate it all.
No!
Wait a minute. He didn't either. It was too hot, too.
Oh, good night, it was really too hot so they all left for a little walk.

Here, knock here.

He's getting a little more porridge because his was all gone. He really enjoys that porridge. He was hungry.
It's all gone now, Baby Bear. You go into the living room and look at your chair. Look what happened to your chair here.
How did you like that?
Was it pretty good?

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T. He climbed out the window.
C. No, out the door.
T. Out the door. I'm glad you are helping me 'cause sometimes I forget.
Well, he went . . . climbed out the door.
He heard a loud noise. It was the footsteps of the giant.
And the giant said, I'm going to eat you.
C. No! He said, I'm going to capture you.
T. Is that what he said? O.K., he said, I'm going to capture you.

This sequence of story line was shared and reviewed to reinforce comprehension and linear thinking. It may also be observed that mistakes could occur with safety and without fear of being wrong.

I'll bet you were surprised when you saw it.
How many flowers do you think you need?
You know what?
Look at your finger.
On the other hand.
What stuck to it?
Do you want to make something?
You could?
I'm glad.
What kind of paper would you like to use?

This sequence, while it deals with several children, is representative of the brief cognitive dialogues that continually engage the children in thinking about themselves and their work.

Todd, here's your paper.
You can bring it over here. Or you can take your paper over there.
Oh, I forgot to tell you this.
Is the sticky . . . look at. . . well this side will stick on.
Do you know what?
You might have to make it a bit smaller.
Hanzel and Gretel.
And they went to the witch's house?
And then what did they do?
A candy house . . . Are you going to make a candy house?
It looks delicious enough to eat.

The above dialogue involves the teacher and Todd in extending ideas into arts and crafts. The characteristics of the materials were discussed and the action portrayed in this child's picture was discussed. The instruction switches to another student and the relationship between

the story and the student's picture was established by questioning. The positive observation that it "looked delicious enough to eat" confirmed the meaning to both the teacher and child.

Tape analysis reveals that most verbal instruction is appropriate for children at the stage two and/or three levels of development. From the social perspective language is communication which involves the child in making decisions (stage two) and it provides the means for sharing experiences and reflecting upon the worth of the activity (stage three). From the cognitive perspective language is symbolic representation through which the child's mental ideas about self and others are validated or accommodated (stage two), and it permits representational action by which the child's ideas about concrete operations are affirmed or denied (stage three). Over 95% of the staff's verbal instruction can be identified as relevant to stage two and three processes where the pre-kindergarten child is functioning.

Categorizing the audio-tape transcripts according to instructional skills derived from knowledge of both cognitive and social stage development revealed teaching which facilitated both phases of growth. The high frequency of clearly and mutually understood communications, choice-making among alternatives and reflection upon the outcome of effort are intended at the Center. Teachers plan that children should take in, choose and think about what they are doing. And implicitly, if not explicitly, children's feelings about their work are accommodated (however, not always indulged). The following dialogue illustrates this process of telling, praising and questioning while engaged in a learning activity which enables the child to discuss his work, reflect upon what he does and how he feels about it within a supportative environment. Both

cognitive thinking and ego development processes are functioning simultaneously.

OK, I'll try.
Here we go, Amy.
Honey, those are items.
Kelly has it.
Boy, that is great!
Thank you very much.
Amy, see. You knew what you were doing.
All right.
You can finish these at home, too.
What color is it?
Light pink.
What does it look like?
I've never seen one.
What does it look like, Christy?
You don't know how to draw it?
Oh, Judy, you can just lick it and it will stick on.
Wow!
It's OK, we can clean it.

Participant and Photographic Observation: Participant observation enabled the evaluation staff to record notes and experience the ebb and flow of Center activities. The photographs provide a permanent slice of reality for future reference. Two observers participated in activities of both morning and afternoon sessions. Their unstructured observational notes were combined and are summarized below as a description of events.

During the hour before the children's arrival, the staff preparation consists of "setting up" and planning for the day's activities. The water table is filled, finger paint supplies laid out, craft materials arranged; large blocks placed outdoors, story books placed on the teacher's shelf, snack provisions arranged, and road signs are placed with the blocks and cars. Any resources related to the day's activities are prepared and arranged before the children arrive. Certain items such as the water table, dress-ups, finger paints, blocks, kitchen, books, and manipulatives are always prepared and available. Specific records,

games, manipulatives, and planning materials for particular instructional activities of the day are arranged for ready access. Then preparation is complete. It is apparent that planned activities are thought through and resources are obtained before children arrive.

When the children bound from school busses, they are greeted by name, comments are exchanged about the day and/or appearance, and children immediately begin the day's activities. Wraps are taken to an individual "cubby" (open wall locker).

The first hour is a mixture of activities: blocks, water table, home corner and manipulatives where the child can work independently, along side or with others. Teachers, aides or interns may hold a special interest activity of planting, cutting, pasting, or a game at a table. Often a small group is spontaneously attracted to an activity or the teacher may encourage participation. Discussion about school work, as characterized in the preceeding section, goes on. During the first hour it is evident that the child selects from a wide range of activities available.

Toward the end of the first hour, as the children's attention appears to diminish, the staff is alert for indicators of inattention: random play, frustration, tiredness, and aggressiveness. As they appear, the children are instructed to clean up and assemble for group experiences in dance, story telling, or drama. During this, other staff members prepare the food and table for snack time, a nutritious and social interlude. The children pour the beverage, pass the snack and clean up. This time is relaxed and rich in the use of language.

After snack time, either outdoor play or a nature walk is typical, but poor weather means a variety of smaller group activities indoors.

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It is evident that there is a fluid structure assisting children's development. The staff provides consistency and continuity so that children see Center staff as safe, predictable teachers who are interested in their welfare. It is evident that the staff is prepared to give children their undivided attention. No "what am I to do next and where are my materials." Their plan permits them to "follow the children," containing sufficient alternatives and flexibility so that it is appropriate to children's basic developmental needs, and can be adapted to a particular child's needs. It is also clear that teachers can recapitulate basic stage one experiences if necessary (see Tables 1 and 4).

Clearly, observational data complemented the audio-tape data. Whereas the audio-tapes described group instruction, observational data described activities and individual interaction (of course, not often amenable to taping), tending to be more personal and anecdotal.

> Richard, you get down and pick up every one (raisins).
> (Inaudible comment by Richard.)
> Yes you did. I saw you drop them.
> Get them under the table and under the chair.
> Now take your napkin and cup . . .

> Denise fell off the "high board" as she jumped. She cried. Her mother went over and helped her up. Denise went to the teacher and sat on her lap to watch for a while. When she went over to the board again, the teacher said, "I'll watch you, Denise. Later, Denise tipped over on the bike. She called for help without crying. Staff helped her get untangled and she ran off to play somewhere else.

> During snack . . .
> What was your mother doing, Lisa?
> Pulling my brother in the wagon.
> What was she riding?
> Her bicycle.
> I rode with side wheels first.
> I got my bicycle last summer.
> My brother is a year and a half old.

> Girl on bars started to cry. Teacher called to her.
> What happened?
> Child cries harder and teacher went and got her and carried her back to a seat to look at her.

That metal thing has got to go.
Let me see.
You'll be all right. Crying stops soon.
I need a Kleenex.
You need a barrette, too.
Teacher fixed her hair and child stayed on her lap for a while.
Teacher stood her on her feet and she ran off to play.

These anecdotes from observations complemented the audio data in that they revealed the completeness and richness of the environment. They revealed that alternatives were available and the child was free to select many of his own activities. Thorough planning and freely available resources enabled teachers to give their undivided attention to planned instruction and emergent needs of children.

The photographic data shows in detail the equipment, supplies and resources available as well as the generally intense delight with which children pursue their activities. Pictures suggest that the activities and children's products do not remain static. Recorded day-by-day, the mixture of activities and special events are seen in a manner which surpasses written observation, communicating to parents and teachers the desire and willingness of children to engage deeply in tasks such as housekeeping, finger painting, spontaneous experimenting with water, singing, rhythmic moving, pounding nails, cooking and dressing up. Many of these activities are considered messy or more appropriate for one sex than the other. But the interest of both boys and girls is revealed. Furthermore, the photographs suggest that the mess is educational in itself, and part of the day's work.

When used as feedback to the children, photographs provided them with rich insights about themselves and their peers. Day-by-day activities, holiday events and birthdays can be revisited and shared again and again through photography. Slides brought positive comments about

past events and many unanticipated thoughts and related events were recalled. In summary, the photographic data provided opportunity for reflecting upon the program and feedback to the children and teachers.

Photographs are amenable to comparative research. As a record of day-by-day activities, resources and products, they could be quantified and compared with pictures of other early childhood programs throughout the state.

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SECTION 4

Student Outcomes

Results of the pre-school Center program were assessed using two different instruments, the Denver Developmental Screening Test (DDST) (see Appendix D) and the Evanston Screening Packet, speech and language section and cognitive section (see Appendix B and C).

The DDST was administered by the Hamburg school district testing department to all children entering kindergarten in September 1974; this included children completing the 1973-74 pre-kindergarten program (group one) and children without pre-kindergarten (control group). Also, the children selected for the 1974-75 pre-kindergarten program were tested on the same instruments by the pre-school staff (group three). Scores of a random sample of the pre-kindergarten students were compared with scores of children entering kindergarten without the pre-kindergarten experience. This data is presented in Tables 3 through 7.

Comparison of personal-social scores on the DDST reveals that there were no significant differences between entering kindergarten children who completed the pre-kindergarten program and children entering kindergarten without pre-kindergarten experience.

It may be noted, but cautiously, that significant differences exist between the entering pre-kindergarten children (four-year-olds) and entering kindergarten children (five-year-olds). Whether this is due to pre-kindergarten experiences or maturation will be assessed next June, 1975.

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TABLE 3

COMPARISON OF PERSONAL-SOCIAL SCORES ON THE DDST

Test Items	Per Cent of Children Who Passed		
	1974-75 Kindergarten Children		1974-75
	With Pre-K N=52	Without Pre-K (Control) N=60	Pre-K Children N=60
Puts on clothing	100 %	100 %	96.7%
Buttons up	94.2	90.1	53.5*
Separates from Mother	100	93.4	83.3*
Plays interactive games	100	98.3	93.4
Dresses without supervision	88.5	96.7	58.5*

Davies test of significant difference between percentages $p > .02$

With respect to fine motor skills there were three significant differences between the kindergarten children with pre-kindergarten experience and those without it (see Table 4). Two of these differences

TABLE 4

COMPARISON OF FINE MOTOR SCORES ON THE DDST

Test Items	Per Cent of Children Who Passed		
	1974-75 Kindergarten Children		1974-75
	With Pre-K N=52	Without Pre-K (Control) N=60	Pre-K Children N=60
Copies +	93.3	98.3	60.2**
Copies O	97.8	98.3	81.7*
Copies /	66.7	63.5	70.3*
Imitates bridge	100	96.7	91.7
Imitates demonstrator	80.0	85.1	32.4*
Imitates vertical line	97.8	96.7	85.1*
Draws 3 part man	90.4	91.7	71.8*
Dumps raisins B.S.	97.8	88.4*	93.6
Draws 6 part man	71.2	88.4**	38.6*
Picks longer line	92.3	78.4**	68.7*

Davies test of significant difference between percentages $p > .05$* $p > .02$**

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favor the children with pre-kindergarten experience in that more students dumped raisins and picked the longer line. On one item the children without pre-kindergarten experience performed better, drawing the six part man.

The language section of the DDST revealed one significant difference between the kindergarten children with pre-kindergarten experience and those without it (see Table 5). Those without pre-kindergarten were better able to define words. However, the 1974-75 pre-kindergarten children had significantly lower scores on seven of the eight items. Again, later study should reveal whether this difference is a function of the pre-kindergarten experience or maturation.

TABLE 5

COMPARISON OF LANGUAGE SCORES ON DDST

Test Items	Per Cent of Children Who Passed		
	1974-75 Kindergarten Children		1974-75
	With Pre-K N=52	Without Pre-K (Control) N=60	Pre-K Children N=60
Comprehends cold, etc.	93.4	100	80.0*
Comprehends prepositions	90.4	91.6	75.0*
Recognizes colors	94.2	95.0	76.8*
Opposite analogies	95.6	91.6	60.1*
Uses plurals	98.1	98.3	93.1
Defines words	48.0	65.1**	6.9**
Gives first and last name	95.6	100	75.0*
Composition	25.0	25.0	10.0*

Davies test of significant difference between percentages $p > .02$* $p > .01$**

With respect to gross motor development, there were no significant differences on seven of the nine tasks. The children with pre-kindergarten experience did significantly poorer on two of the nine items,

hops on one foot and catches bounced ball. The entering 1974-75 class of pre-kindergarten children scored significantly lower on seven of the nine tasks.

TABLE 6

COMPARISON OF GROSS MOTOR SCORES ON THE DDST

Test Items	Per Cent of Children Who Passed		
	1974-75 Kindergarten Children		1974-75
	With Pre-K N=52	Without Pre-K (Control) N=60	Pre-K Children N=60
Balances one foot 10 sec.	53.8	65.	25. **
Throws ball overhand	100	100	93.1
Hops on one foot	73.1	91.6**	66.7*
Catches bounced ball	42.3	55.1*	33.3
Heel toe walking	73.1	65.1	43.4*
Tricycle riding	100	100	90.
Backward heel toe	44.2	41.2	20. *
Broad jump	97.8	98.3	83.3*
Balances one foot 5 sec.	82.2	90	61.8*

Davies test of significant difference between percentages $p > .02$* $p > .01$**

Taken as a whole the children with pre-kindergarten experience did significantly better than those without on two of the thirty-two tasks of the DDST. Children without pre-kindergarten performed significantly better than those with pre-kindergarten on four of the thirty-two DDST items. Five of these six significant differences pertained to motor skills. There were no significant differences in social tasks. There was one significant difference in language skill (defines words). The data is sufficient to conclude that the pre-kindergarten program has modified differences which may have existed between the two groups during the previous year.

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Cognition was further measured by using the cognitive section of the Evanston Screening Packet (see Appendix B). The cognitive tasks used in the screening were selected according to the following criteria: (a) Content Sampling--measures of several types of cognitive skill were included, namely, classification, symbol discrimination, rote memory, and several types of learning tasks (uncued recall, serial learning, and paired associate learning); (b) Predictive Validity--the cognitive skills tested were some of those on which school-type tasks are theoretically based; (c) Basic Ability Versus Experience--a combination of tasks was selected that would differentiate between levels of "basic ability" and "applied ability." Tasks measuring basic ability had relatively low dependence on particular experiences or training, while those measuring applied ability had relatively greater dependence on relevant training or experience; and (d) Materials--concrete objects and pictures of familiar things were used wherever possible to keep the materials relatively experience-free.

The Center staff tested the 1973-74 pre-kindergarten children, the children accepted for the 1974-75 pre-kindergarten and a random sample of 1974-75 children without pre-kindergarten experience in basic, applied or total cognitive abilities. There were significant differences between the children entering the pre-kindergarten in September 1974 and those entering kindergarten (see Table 7). The extent to which this is a function of maturation or pre-kindergarten experience will be assessed and analyzed next June, 1975.

It is apparent that any differences which may have existed at the time children were selected for pre-kindergarten last year have been modified. The mean scores of each group are reported on Table 7. There

were no significant differences between children entering kindergarten without pre-kindergarten and those entering with pre-kindergarten.

TABLE 7

COMPARISON OF COGNITIVE SCORES ON THE EVANSTON SCREENING PACKET

Scores	1974 Kindergarten Children		1974-75
	With Pre-K N=55	Without Pre-K (Control) N=30	Pre-K Children N=57
Basic	19.94	19.20	13.14**
Applied	14.01	12.83	8.36**
Total	33.95	32.03	21.50* t=2.49*

$p > .02$* $p > .01$** Fisher's t test on small uncorrelated samples

The purpose of the speech and language test was to determine whether or not children were communicating adequately. If a child can communicate his thoughts intelligibly to a listener and can understand the communication of others, then it can be said that his speech and language performance is within normal limits. A child's communication skills were determined briefly by having him/her spontaneously discuss particular pictures or answer a set of questions with a trained listener. The same pictures and questions were used for all children. Spontaneous speech was most important in that it allows the tester to hear the child's normal communicative abilities and to simultaneously listen to and informally evaluate the child's articulation, language, and voice. Following the spontaneous or conversational speech, a set of pictures was presented for naming which allows the tester to evaluate specific sounds. When sounds are misarticulated by the child, the speech clinician stimulates for these sounds--first in isolation and then in

words. The clinician models the correct production of the sound, which the child is instructed to imitate.

The screening procedure took approximately three to five minutes; however, on particular borderline children, more time was needed and used.

The children were assessed according to the following categories: (1) No errors during the screening procedures; (2) Errors during screening procedures sufficient to warrant the administration of further tasks, but no problems were diagnosed; (3) Errors during screening procedures were sufficient to warrant administration of further tasks, remedial speech and language problems were confirmed or further diagnosed.

There were no significant differences between children with pre-kindergarten experience and children without the pre-kindergarten experience. There were significant differences between children entering the pre-kindergarten and children entering kindergarten (see Table 8).

TABLE 8

SPEECH AND LANGUAGE SCREENING

Group	1974-75 Kindergarten With Pre-K N=59	1974-75 Kindergarten Without Pre-K N=30	1974-75 Pre-K N=57
No errors during screening	64.4 %	66.7 %	40.0 %*
Screening errors sufficient to warrant further screening; no problems diagnosed	27.1 %	26.7 %	35.0 %
Screening errors sufficient to warrant further screening; problems diagnosed or confirmed	8.5 %	6.7 %	20.0 %*

*Davies test of significant differences between percentages $p > .02$

SECTION 5

Conclusions and Recommendations

Conclusions

Objectives:

Number 1 To screen and identify pre-school children on a multi-dimensional basis.

This objective was achieved. The data reveal that all pre-kindergarten children were screened on socio-economic, motor, cognitive, language, physical and social emotional characteristics.

Number 2 To create a classroom environment which encourages social-emotional and cognitive development.

This objective was achieved. The data reveal that the pre-school program was comprehensive; that teaching is consistent with what is known about social-emotional and cognitive development. More specifically, communications were clear and mutually understood, choice existed among activities, reflection upon the worth of activities and clarification of thinking were encouraged.

Number 3 To sustain an individualized learning program for each child.

This objective was achieved. The data reveal that: (1) diagnostic procedures permitted the staff to know the status and potentialities of each child, (2) the home visitation program elicited the cooperation of the parents or guardians, (3) children were encouraged to make choices according to

their learning style, pace and potentialities from a variety of available material, and (4) staff was alert to frustration, aggression or withdrawal so that the child could rest or engage again in productive activity.

Number 4 To modify the educational deficiencies of children selected for the pre-kindergarten.

This objective was achieved. The DDST data revealed (Tables 1 through 4, Section 4) that differences which may have existed when the pre-kindergarten children were selected, were reduced. There were no significant differences on the cognitive section of the Evanston Screening Packet between those children with and those without pre-kindergarten experience.

Number 5 To provide kindergarten teachers a comprehensive anecdotal record of each child.

This objective was achieved. A comprehensive anecdotal record for each child was forwarded to the kindergarten teacher.

Staff Questions:

1 What are the goals of the program?

The goals are both explicit and implicit. The program objectives evaluated in this report are explicit goals of the program. Various documents given to parents, the State Education Department and visitors reinforce the goals of individual development and the potential of home and school cooperation to sustain compensatory educational opportunities.

2 Are the goals broadly conceived, yet attainable?

A program based upon the child's cognitive and social emotional development is broadly based. The DDST scores and cognitive scores on the Evanston packet indicate that the goals are attainable.

3 Is the curriculum established for the program consistent with stated goals?

Yes. It is abundantly clear that the staff at Hamburg has a firm understanding of child development. Basic instructional skills specified in Tables 1 and 2 can be readily observed. Verbal interactions characterize the skills of stages two and three. Together, teaching skills and verbal patterns express caring facilitative of the individual child's development.

4 Are the experiences provided challenging yet suitable for the age range of the children?

Yes. The data, especially observational and photo materials, reveal that children actively engage in learning experiences.

5 Is there variety in instructional method?

Tape analyses reveal a concentration of verbal instruction on telling, explaining, clarification and questioning. Observational data reveal use of additional methods.

6 Do the methods of instruction allow for personal exploration and freedom?

The weight of the data reveal that personal exploration and freedom are encouraged.

7 Are the children free from undue pressure?

Yes. The participant observations and photographic data reveal that children are happily busy.

8 Are children treated with respect?

The audio-tapes and observational data reveal that instruction begins with care, and preparation, punctuality, personal greetings and inquiries continue to characterize it. Inevitable incidences of frustration, withdrawal or aggression were generally channeled into productive alternatives.

9 Is play used to support children's learning?

Yes. The weight of the evidence collected shows that play contributes to children's learning.

10 Is the program organized to allow for individual differences in pace, style and capacity?

Audio-tapes analyses and observational data reveal that planning, organization and instructional competence were sufficient, allowing staff to relate to each child individually, encourage him to make his own decisions and concentrate on his unique talents. The weight of the evidence is favorable.

11 How effective is the program in achieving its total range of goals?

Data pertaining to the five objectives reveal that the total range of goals was effectively achieved.

Discussion and Recommendations

Children develop at different rates. They are born with different capacities and they come to school with different cumulative experiences. Providing the environment in which development may prosper is complex but it is more complex to provide the benefits necessary for the individual development of many children. Such was the task. Moreover, the

children in pre-kindergarten had been selected because, for some reason, they had not yet capitalized upon their inborn capacities. Without pre-kindergarten experience to enrich their development, the chance for failure in the normal course of schooling would be higher.

Modifying whatever deficiencies existed was an objective of the program described in this report. Happily, at the end of the program, the data reveals that pre-kindergarten children were able to engage in schooling on an equal footing with their age mates. Furthermore, specific program objectives were achieved and the questions asked by the staff were affirmed.

However, the pre-kindergarten staff has taken on a far greater responsibility than simply to achieve their objectives and answer their questions satisfactorily. They have also asked about improvement. Up to this point, judgements have been made by comparing the performance of pre-kindergarten children with their age mates entering kindergarten in September 1974. If other judgements are asked, it requires additional reflection upon the data. Data reveal that although the instructional skills logically facilitative of children's learning were, indeed, present the balance among instructional frequencies for optimal development may be worth considering. Tables 1 and 2 reveal that the predominant instructional frequencies were telling, explaining, clarifying, and questioning. Rather infrequently did the teachers (1) help children make choices, (2) help clarify feelings, and (3) extend experiences into art, music, dance, and drama.

To the extent that social development is facilitated by interaction between adults and children, then helping children make choices and reflect upon their feelings is a critical need. To the extent that

cognition is an active experience, then extending concepts and ideas into art, music, dance and drama not only enhances integrative thinking, but also provides a variety of ways to perceive and express an idea(s).

Another consideration is that some children did not complete the program on an equal footing with their age mates. There were those for whom the program was unsuccessful (or the evaluation design was insufficient to make judgements). Staff concern for individualized instruction obligates them to continue the search for ways to reach these children.

Recommendation #1: It is recommended that the staff incorporate more student goal setting and choice-making in instruction.

Goal Setting. Goal setting as an instructional experience can be accomplished as follows. Each morning a staff member may enter the names of three or four students on a goal setting card. When these children arrive, he/she is asked, "What would you like to do today?" or "What are you planning to do today?" The child is encouraged to briefly talk about the activity he/she would like to do. If the activity is not feasible because of other plans, resources, or whatever, the child is told this and encouraged to select an alternative. If help is needed to carry out the activity, agreements are made about who is going to assist him/her. At the end of the day, the child is asked, "Did you get to do what you intended?" "How did it go?" The child's responses are recorded on the same card. At the end of the year an analysis of the cards should reveal some interesting information about children's choices and the progression or differentiation of their decision-making.

Choice-making among activities. During the day, children exhibiting withdrawing, aggressive or random behavior may be asked to join an activity with the teacher, aide or mother. Crafts, blocks, games, and

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dance provide opportunity for sharing a few thoughts and ideas. Upon completion of the required activity, choices among subsequent activities may be explored according to the developmental level of the child. Children with a short attention span and low frustration level may need a calm and comforting experience. So asking them, "Would you prefer to join me (or another adult) and read a story or would you rather listen to a record?," structures and yet facilitates choice-making. A child with a longer attention span may wish to explore the different ways an ideas that was talked about can be drawn, modeled with clay, or dramatized.

Recommendation #2: It is recommended that the staff increase use of the clarifying response in their teaching.

The clarifying response is a statement or question designed so that the hearer must sort out his own role, personal feelings and thoughts about what he is doing and saying. These questions or statements, as exemplified below, are the content for a brief teaching encounter of thirty to sixty seconds. They stimulate conscious reflection about how the child or others feel about something. They are neutral questions that have no right answer, for however the child responds, it is accepted. A repertoire of such questions and statements and their use by teachers provides the child an opportunity to verbalize how he/she feels and how he thinks other feel, thus assisting him to clarify his purposes and goals.

I find that interesting.
That seems like a different approach (idea, way, thought).
How did you feel when that happened?
Did you consider anything else?
Was that something you choose by yourself?
Would you really do that or were you just talking?
Are you saying that . . . (repeat)?
Have you thought much about that idea (or behavior)?
(For other responses, see L. Raths, Teaching for Values.)

Recommendation #3: It is recommended that the staff make and use a monthly check list dealing with the emotional needs of children.

Recorded on this checklist would be the frequency and intensity of certain behaviors such as withdrawal, aggression, submission, frustration, and illness. High frequency or intensity would indicate the need for special attention.

BEHAVIORAL CHECKLIST

Name	Frustration	Withdrawing	Aggression	Submission	Ill

Use key and definition of Dr. L. Raths, Meeting the Needs of Children.

Three or more students needing particular help could be selected (with the assistance of the aide, student intern, or mother) and an individual plan could be outlined and implemented. The form on page 25, Meeting the Needs of Children, may be helpful in this regard.

Recommendation #4: It is recommended that activities requiring the use of gross motor skills be increased.

The data reveal three deficiencies in gross motor skills among the pre-kindergarten children. While space is a serious handicap, activities like rolling, tumbling, falling, bouncing balls and wrestling would increase coordination.

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APPENDIX A

RATIONALE FOR DESCRIPTIONS OF THE SOCIAL AND COGNITIVE INSTRUCTIONAL PROGRAM

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RATIONALE FOR DESCRIPTIONS OF THE SOCIAL AND COGNITIVE INSTRUCTIONAL PROGRAM

Three procedures were used to obtain a description of the instructional program. First, audio-tape recordings were made to obtain and store a sample of verbal interactions. Second, observational notes were made to record the ebb and flow of activity. Third, photographs were taken to record visual data. These three procedures were selected so that the evaluation team could focus independently upon the merits of the respective procedures. Together they provided a comprehensive way of describing the pre-school program.

Social Stages and Pre-School Instruction: Erikson's outline of the stages of social growth is the most complete and systematic description of development available. The first two stages he describes are called "Trust-Mistrust" and "Autonomy-Shame." Passage through the trust-mistrust stage, generally assigned to the first 18 months of life, occurs during infancy. The infant child interacts first with parents and later with brothers and sisters acquiring his first views of himself and his world according to the care he receives from others. The second stage (autonomy-shame) builds upon learnings in the previous stage and ends when the child is approximately three years old. During this period he is (or is not) accustomed to increasing freedom and opportunities for learning. Of particular importance are the cumulative effects of the processes of communicating and choosing, both basic processes of

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Stages One and Two. They are the processes which progressively affect the development of hope and will in the child (see Tables 1 and 2). To know whether or not these processes have resulted in hopefulness and willpower, one must look at the child's behavior. His actions will indicate whether the desired strengths of hopefulness and willpower are developing. Indeed, taken together these actions may even be called behavioral indicators, and there are a number of them. A hopeful child is alert, rests easily, and vigorously engages objects within his grasp. An autonomous child is an intense explorer, controls his movements, and talks a lot. Nor is the child's behavior only indicative of developing ego strength; it is also indicative of a predominate learning preference or response modality. That is, the child may prefer visual rather than audio learning stimuli and respond in verbal artistry or respond mechanically to others. To state it somewhat differently--during the trust-mistrust stage, the child depends upon his sense perceptions to receive communications from his environment. From these communicated sense perceptions, the child organizes his own responses; i.e., a predominate pattern of actions that may be characterized as pleasant, engaging, zestful or avoiding, withdrawing, and turning inward.

Or consider the second stage when processes of decision-making or exercising choice lead to willpower (Table 2). Children's behavioral patterns related to self-expression, experimentation, locomotion, holding on and letting go indicate the strength of the developing willpower. More specific indicators of autonomous development are consummating an initiated activity and persistence with an interest. Parents influence these patterns by providing culturally relevant resources and

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personal experiences about which children may make choices. Toys may be provided so that decisions about their use ensue. Tools enrich the child's opportunity to decide about imitating brother, sister, or parent models. Books, records, and paper encourage choices through which the child may experience activities in reading, music, and art. Above all, in this stage, the communicative structures of the previous stage are supplemented by choosing objects and/or activities and symbolically attaching meaning and language.

TABLE 1

TRUST-MISTRUST
(Age 0-18 Months)

Process	Developmental Response Modalities	Parent --Family Influences	Instructional Skill	Ego Strength
Communications (sense perceptions)	Getting Focusing Taking Appropriating Receiving	Consistency Continuity Preparedness Punctuality Eye Contact Telling Touching Praise Smiling	Preparing Punctuality Eye Contact Telling Comforting Showing how Praising Explaining Consistency Continuity	Hope

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TABLE 2

AUTONOMY-SHAME
(Age 18-36 Months)

Process	Developmental Response Modalities	Parent (Peer) Influences	Instructional Skill	Ego Strength
Decision-Making (Choice)	Holding on Letting go Locomotion Self-expression Experimentation Consummating Persisting Attending	Organizing Time Space Resources Technology Tools Humanities Dance Art Music Rules	Organizing Time Space Resources Activity Dance Art Music Drama Rules Creating choices Using children's ideas	Will

Thus, for each stage of ego development we may describe a primary process that leads to development of the strength particular to that stage; specific behaviors, which indicate the process; and children's learning preferences or modalities which facilitate acquiring the desired strength. Logically, such an outline suggests the need, as a next step, for expanding family and environmental influences into instructional skills that sustain student learning preferences or modalities for developing the strengths of each stage. The teaching transcripts were coded according to the use of such instructional skills associated with stage development. Frequency of use of these skills provided a partial description of the instructional program.

Instructional skills and patterns that will facilitate acquiring

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the strengths of the various stages are identified in Column 4 (see Tables 1, 2, and 3). Consider again the first two stages and their respective processes. For example, trust-mistrust is resolved constructively by consistency, continuity, preparedness, and punctuality. At the infant level these terms pertain to washing, feeding, clothing, singing, and other stimulating actions to regularly meet the child's basic needs. As stated, the child's sense perceptions of seeing, smelling, hearing, and feeling organize and interpret the above actions into a predisposition that the world is or is not a hopeful place. Hope enables the child to use his psychic energy or attention on further learning rather than simple survival needs. Serious discontinuity in the above patterns makes it difficult, if not impossible for the child to organize his perception in a hopeful manner, and his view of the world is mistrustful or hopeless. The point of all of this is that teachers must be skillful in the actions that communicate trust and hope in the classroom. Why? Because those who come to school with a high degree of hope are ready for the consistency and continuity in action needed for school tasks. But those who have a low degree of hope or are mistrustful must have a primary relationship with adults that includes touching, lap sitting, story telling, listening, role-playing and associated activities of stage one before they can view school as a hopeful place and can use their psychic energy for further learning. Instructional skill is required not only to sustain school tasks pertaining to the industry stage (four- to six-year-olds), but also to recapitulate the primary processes of all past stages in a school setting. To achieve this, basic communication skills are required; i.e.,

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TABLE 3

DEVELOPMENTAL SOCIAL STAGES

Stage	Processes	Developmental Response Modalities	Parent --Family Influences	Instructional Skill	Ego Strengths
3 Initiative Guilt 3-6 years	Reflecting	Planning Attacking Enterprising Intruding Including	Roles (Expectations) Activity Authority Affect Deference Praise Variety Specific	Role-Playing Teaching roles Practicing Perfecting Appreciating Clarifying ideas feelings Ordering Redirecting Praising Specifying	Purpose
4 Industry Inferiority 4-12 years	Making	Technical Knowing Implicit Explicit Systematic	Occupation Role-set Community Involving Valuing	Subject Matter Procedures Processing Diagnosing Questioning Classifying Generalizing Craftmanship Mixing thinking and feeling	Competence
5 Identity Role Confusion 11-17 years	Internalizing	Sameness Idiology Work	Pluralism Commitment Discipleship Courage	Abstracting Conceptualizing Inquiring Verifying Evaluating	Fidelity

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communications must be shared. Each must understand what the other has said and meant. Moreover, it is the teacher's responsibility to be prepared, punctual, consistent, and provide continuity in direction and purpose. If the teacher's instruction includes telling, praising, explaining, smiling, and showing how, all with enthusiasm, the child may organize his view of school in a hopeful manner. Without instruction that includes these patterns and the actions above, the child who has not successfully mastered the trust-mistrust stage, is still at sea.

Familiarity with and use of rather specific processes related to each stage are necessary to create an instructional program. Emphasis was just placed upon communication skills as the basic process of Stage One resulting in hope. The basic process for Stage Two is decision-making leading to willpower. This means teachers must develop skill in providing learning alternatives so children may make choices. Choice in learning activities, length of time to complete a task, tools, place to work and the rules for work can be planned to accommodate differences in children's learning rates, preferences, and capacities. In the pre-school communications include complete sentences, choosing among activities, reflecting upon the feelings students' experienced, and relating outcomes to subject matter. In the later years these processes continue; communication remains necessary to share teacher-pupil frames of reference; choice among activities continues and generally pertains to subject-matter content.

As schooling continues, development builds upon the differentiated and increasingly complex processes of each stage. Communication of the trust-mistrust stage begins with sense perceptions and proceeds

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to an elaborate code of shared verbal and non-verbal messages. Decision-making of the autonomy-shame stage begins when physical development permits some freedom and varied activity is possible. It finally includes exercising the extensive freedom available to adults. Reflection of the initiative stage is the process of accommodating wants and consequences. Reflection, or the capacity to share feelings, is foundational to a life of purpose and direction. In the industry stage, making includes the process of imitating family and peer activities. Later, it may include control of subject matter, disciplines or technologies. Each process builds upon and adds to processes of the previous stages. For example, reflecting includes communicating the worth or consequences of acts and decisions. The industry process of making includes deciding to initiate and reflecting upon the degree of competence achieved. In this manner each stage is cumulative. Neglect of any process renders the associated strength incomplete. Incomplete strengths are accentuated with age as differentiated capacities are needed. If the strengths relevant to each process are not developed, a considerable proportion of future development also may be arrested. The teachers willingness to conceptualize and sequence each process is necessary so that a child develops the strength in his own time.

Cognitive Stages and Pre-School Instruction

Erikson's concept of social development in children is complemented by Piaget's view of cognitive development. Whereas one theorist has concerned himself with interpersonal processes, the relating of self to self and others, the other has explored the emergence of mental structures for impersonal verification or denial.

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As noted, knowledge of the developmental stages of social growth is helpful for sequencing instructional interactions, allowing teachers to predict the ego building effect of communications, choice making, reflecting and doing. Teachers may plan instruction with due regard for the child's social development and his particular learning modalities. However, while social stage analysis brings considerable order to the interpersonal aspects of instruction, it lacks clarity and power for conceptualizing and sequencing cognitive processes.

Piaget conceptualizes four stages in cognitive development and the sequence in which they occur. Like Erikson, he builds upon a genetic-culture principle--the developing individual proceeds through stages in an invariant order. Individuals, in interaction with their environment, develop mental schema through assimilation, accommodation, and equilibration, actions which occur in interaction and organize sense perceptions into structures of mental schema. More simply put, through active experience, mental structures of reality are created and called upon to deal with similar events. These differentiated structures pertain to causality, symbolism, knowing systems, and ideological systems. In order words, the stages of cognition may be viewed as a sequence in which the egocentric child acquires and verifies the order in the universe with respect to:

1. self as object and causality (sensorimotor stage)
2. self as person in a symbolic social system (preoperational stage)
3. self as perceiver of knowing systems (concrete operational stage)

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4. self as conceptualizer in a world of pluralistic ideologies (formal operational stage)

The mental schemas of structure which Piaget postulates are developed through continuous interaction between the child and his environment (object, parent, others). The child actively and selectively assimilates mental structures of reality. These mental structures (assimilations) are the result of encountering the environment. The nursing infant may exhibit a simplistic "sucking" schema while the older child may grasp the bottle, focus his eyes on it and move his mouth vigorously, providing evidence of assimilation. In the attempt to assimilate or act upon the environment, changes in the assimilating structures are forced. The child encounters objects or forces that are too big, don't fit, make noise, respond differently, don't respond, and create exceptions to his earlier learned schemas. In these instances the realities of the environment force accommodation. Experience or existing schemas are denied by reality, as, for example, when a gas filled balloon doesn't fall to the floor when released. Such an experience must be thought through (accommodated) and thus it contributes toward new and more elaborate schemas or structures for dealing with the world.

The first stage is the sensorimotor stage common to the first two years of life. Activity is the process that characterizes the sensorimotor stage. Beginning with reflexes to touch, sound or temperature, the infanct encounters a variety of stimuli from objects or others which intrude upon his vision, grasp or person. The child's responses become more elaborate as he learns that objects can be viewed, handled or manipulated. Awareness grows that certain objects do rather specific things.

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Some objects move, others feed me and another may be soft and warm. Response to these objects includes basic attentiveness and grasping. Adaption is a more differentiated response involving eye and hand coordination. It is basic to intentional responses requiring coordination and control. Rattles can be shook or thrown; mobiles can be watched or hit; both actions display intentionality.

Transactional responses are evident when a child is aware that objects cause events. Mother picks me up, blankets are comforting and the playpen or fence rstrains me. The transactional response also includes object constancy, that is, objects out of sight still exist. The most differentiated response of the sensorimotor stage is representational. Objects can represent other objects or persons. Representational responses signal the beginnings of symbolic relationships.

The aforementioned sensorimotor activities characterize cognitive schema or mental structures of reality that continue to be assimilated and verified. If aspects of reality don't fit, or match with present schema, accommodation occurs.

During the sensorimotor stage, the primary influences on the child are parents and family, just as they are in the development of hopefulness. But it was suggested in the earlier discussion, and can be reemphasized here, that teachers must be familiar with the processes leading to the desired outcome of each stage. For if a child's development at one of the early stages is incomplete, the teacher must, in effect, back up and use the teaching skills derived from the processes of the incomplete stage in order that the stage strength or goal may be reached.

In school, teachers may promote development by providing

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TABLE 4

SENSORIMOTOR STAGE
(Age 0-2 Years)

Process	Developmental Actions	Parental --Family Influences	Instructional Skill	Cognitive Strength
Activity	Reflexes responsiveness to touch Sense-Perceptions responsiveness to sight sound taste smell Anticipation attention interest Adaptation space eye-hand Intention coordination control Transactions other causes object constancy Representation Intervention Alternatives	Orchestrated-Care Handling Feeding Changing Clothing Rest Patterned-Intervention food bath clothing handling Freedom security movement safety Responsiveness of environment Space-movement Variety of cultural objects	Orchestration Repetition regularities patterned Variation differentiation Thematic Causality-Questioning Roles	Causality Self-Objects

experiences that are patterned, orchestrated, repetitious, thematic, and sufficiently differentiated to accommodate individual potentialities (see column 4, Table 4). Patterned action provides a way for children to make predictions which is necessary to understand causality. Orchestration coordinates the capacities of individuals while creating unity and relevance

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among activities. Repetition creates habitual action. Themes enable the child to perceive and experience continuity and variation. Finally, differentiation allows for individual differences in rate and capacity. If teachers use these skills and/or learning experiences with these qualities, children will develop a firmer understanding of cause and effect relationships.

The second stage is the preoperational stage when emergence and use of language permits the potentialities of symbolic representation. Sensorimotor actions can be represented by language now and verbal symbols are attached permanently to objects and ideas. In this stage accommodation and assimilation take on new characteristics. Assimilation incorporates symbolic play, creative imagination and constructional games. Words are sufficient to label objects and events. Accommodation involves more representation imitation and reproductive imagination. Symbolic schema, such as "doggie," are often attached to similar animals such as cats or goats. Later, the child reorders or accommodates into new schema, objects or information that is not affirmed. Accommodating actions reveal imitation as the child "acts out" things such as a falling tower when he collapses to the floor. Copying activity previously seen or described displays accommodation.

So it is during this stage that action and language are merged. Language is used to label features (classification); sequence operations (ordering); and internalize rules and behavior (socialization). Developmentally the child profits from a responsive environment that engages his interiorized intelligence of accumulating schema, as well as one that supplies events amenable to imitation. Objects that encourage

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assimilation may be familiar: toys, blocks, strucks, sand tables, water. Creative use of these materials is infinite. Dress-ups, painting, telephones, towers, kitchens and workshops enable the child to imitate, reproduce and cultivate his imagination.

TABLE 5

PREOPERATIONAL STAGE
(Age 18-36 Months)

Process	Developmental Actions	Parental --Family Influences	Instructional Skill	Cognitive Structures
Symbolic Language	Language Egocentric Socialized	Role Activity Reading Telling Listening Play	Organizational Using student ideas	Self--others Socialization
	Representational play	Toys	Telling	
		Cultural Objects & Ideas as means of expression records drawing materials singing dancing tools	Explaining	
	Socialization		Varying concept level down	
			Involving	
	Classification Attributes		Redirection	
	Centralization elemental	Organization of time space resources	Extending concepts in humanities drama art music dance	
	Serial ordering			
	Rules Logical		Observing	
	Conservation number		Elemental centering Describing	

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The instructional skills associated with the preoperational stage elicit and sustain language development. It is necessary to organize the room to facilitate and encourage creativeness and imitation in play and language use. Using student ideas, telling, explaining, varying concepts and extending concepts via art, music, dance and drama are basic for creating complete programs of language development. Such an approach enables the teacher to assess and provide a variety of learning activities that children can participate in according to their respective rate and capacity.

Cognitive stages, like social stages, are subject to the infinite permutations of experience (see Tables 4 and 5). The interworkings of maturation, physical experience and social interactions are endless. Yet the processes of cognitive stages are also invariant, and the right class of experience at the right time determines the outcome of a stage. Furthermore, emergence of the next stage opens up new potentialities, which, ready or not, ensue. If the child has had sufficiently differentiated and integrated experiences, he finds an equilibrium in which his potentialities are realized, and he moves to the next stage with zest, enthusiasm, and preparedness. If not, he proceeds with incomplete structures.

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TABLE 6

CONCRETE OPERATIONAL STAGE
(Age 6-12)

Processes	Developmental Actions	Parental --Family Influence	Instructional Skill	Cognitive Structures
Knowing	Decentering Transformations States changes Coordination of variables Reversibility Conservation mass area weight volume Concrete Prob. classification ordering logical oper. Generalizations from concrete Social interaction Verification or denial Inductive	Rules or Expectations about: tools water objects dressing toys Interactions about: play language pets Practice Perfecting Thinking-Actions Patterns Questions Openness Closedness	Two level language Varying Concept level up Demonstrating Showing How Using manipulatives Models Project-goal setting Conceptually comprehend the sequence of a. internalized action b. reversibility c. conservation & invariance d. relatedness to a system of know. Consolidate	Knowing systems (Disciplines)

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APPENDIX B

EVANSTON COGNITIVE SCREENING PACKET

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COGNITION STATION

TASK	DIRECTIONS FOR ADMINISTRATION
1). Serial Learning:	Say "I'm going to show you how to play a game of hide and seek." Show animal picture cards. "Here are pictures of four animals." Point to each and name them: "a fish," "a monkey," "a squirrel," and "a bird." Open the folder. "Now they are all hiding." Expose each picture for 4 seconds in left to right order, including time to say: "Here's the _____. Now, let's see if you can point to the bird" (position 3). Repeat for squirrel (position 2); fish (position 4); and monkey (position 1). Each time if correct, say good. and expose the picture. If incorrect say, "No, but how about the _____(next), where's he?"
2). Rote Counting:	Say "(name), now I'd like you to count for me. You know, 1, 2, . . ." If response is less than 11, probe further saying "good, you have the idea. Try it again, and count carefully: 1, 2, . . ."
3). Recall of Objects: child will demonstrate unused recall for previously presented objects.	Say "(name), now I'm going to show you some things." Present Recall Box. "Look very carefully at each one, and try to remember them. Repeat after me . . ." Name objects in given order: sponge, etc., at a 4 second rate. Cover the box. "Now tell me all the things you remember in the box." Probe further if necessary.
4). Recall of Words: child will demonstate uncued recall for previously presented words.	Say "good, Now we're going to play the same game again but this time I won't show you anything: I'll just say some words. You listen very carefully to each one and try to remember them, o.k.? Repeat after me . . ." Say words in a given order at a 4 second rate: "Milk, nickel, happy, shoe, red, house." Next say, "Now tell me all the words you remember." Probe, if necessary, saying "what else?" "Anything else?" "Good. Let's try more next time. Try to

TASK	DIRECTIONS FOR ADMINISTRATION
	remember the words. Repeat after me . . ." Say words in new, given order. Then ask child "o.k. Tell me all the words you remember." Then probe.
5). Symbol Discrimination: child will demonstrate ability to discriminate between identical versus transformed two dimensional symbols.	Say "(name), now I'm going to show you some funny looking pictures. Some will look exactly the same, and some will look a little bit different." Present training cards, one at a time. "Look at these pictures next to each other." Point to 0 and 0. "Do they look exactly the same?" Encourage affirmative response. Point to X and %. "Do they look just the same?" If correct, say "good." If incorrect, say "Do you think so? Look again. They're different because one goes like this," (trace X), "and one goes like this" (%). Present test cards in given order, unpaced, asking each time if they look the same or different. Do not correct mistakes for the test cards.
6). Paired-Associate Learning:	Say "o.k. (name), now I'm going to show you a game where some things go together, like special friends. You watch very carefully, and try to remember what things go together. For example ("present association box) these two things go together because they are special friends." "Some of these friends have gotten lost and we must put them back together again." Present Association Test Box "Now let's see how well you remember. What was this one's special friend?" If correct, say "good." If incorrect, say "No, it's not that one. How about this (next) one?"
7). Classification:	Say "O.K. (name), here's our last game." Present training card with pictures of iron, and toaster. "I'm going to show you some pictures. Two of them are alike in some way. Point to the two pictures that go together best. O.K. They go together best because they're both ....." If child incorrectly

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TASK	DIRECTIONS FOR ADMINISTRATION
	groups or verbalizes, point to the two appliances, and say, "These two go together best because they're both _____." Present the four test cards in given order, unpaired. Each time say "Point to the two that go together best because they're both _____." *Don't make corrections on test items.

SCORING PROCEDURE

1). Check if correct response

2). Circle highest Counted:

3). Write order in which objects were remembered. Write in any added names of objects.

BASIS FOR DIAGNOSTIC FOLLOW-UP

Each child is alloted three scores according to his performance on the cognitive tasks: a "Basic Ability Score" or B Score, an applied Ability Score" or A Score and a Total Score. The B Score measures a more basic level of ability as it is more culture-free relative to tasks (paired assoc. learning) and task materials (serial learning, recall), previous training and experience with related tasks (serial learning, recall, discrimination, classification), or the child's willingness to verbalize (serial learning, paired associate learning, classification). By contrast, the A Score is more dependent on previously acquired skills. The A Score also includes enter-developing stages of Discrimination and classification skills. The cognitive tasks contributing to the two subscores are summarized below.

B SCORE (BASIC ABILITY)		26 Points
Task #	Skill	Points
1	Serial Learning	4
3	Recall of Objects	6
5	Symbol Discrimination (same)	2
	Break/closure transfer	4
6	Paired-Assoc. Learning	6
7	Classification - Grouping	4

A SCORE (APPLIED ABILITY)		24 Points
2	Serial learning/Rate ctg.	4
4	Recall words	12
5	Symbol Discrimination reverse/not tsf.	4
7	Classification - verbalizing	4

SCORING PROCEDURE	BASIS FOR DIAGNOSTIC FOLLOW-UP
4). Write the order in which child remembers the words.	The following criteria are used in considering diagnostic follow-up among pre-school children being screened 1. Low Total Score: total score less than 25 2. Discrepancy between B Score and A Score with B higher than A. Average B Score (15 or more) and low A Score (less than 10). 3. Average Total Score with Low Performance in a given cognitive area.
5). Circle the child's response	
6). Check the pairs the child initially picks correctly.	
7). Check if correct choice and check if correct classification.	

) _____ R___ S___

me _____

_____

Total Correct: ____ Total; ____ B Basic; ____ A Applied

___ B Serial Learning
___ A Rote Counting;
___ B Recall-objects
_1_ A Recall-words

Discrim.
___ B Same
___ B DC
___ A RR

___ B Assoc. Lrng.
___ B Cl.--Choice
___ A Cl.--Verbal.

Serial Learning (check if correct)

___ 3-bird
___ 2-squirrel
___ 4-fish
___ 1-monkey

Rote Counting (circle highest cqt.)

0--1 2--3 4 5--6 7 8 9 10--10+
0 1 2 3 4 points

Free Recall for Objects
(write order in which remembered)

___ sponge Intrusions:
___ gum
___ car
___ pencil
___ comb
___ ball

Free Recall for Words
(write order in which remembered)

___ milk Trial 1 Intrusions:
___ nickel
___ happy
___ shoe
___ red
___ house

___ red Trial 2 Intrusions:
___ happy
___ milk
___ shoe
___ house
___ nickel

5. Symbol Discrimination (circle response; correct one is underlined)

symbol	response	discrim. type
	1. S D	RR
	2. S D	BC
	3. S D	BC
	4. S D	Same
	5. S D	RR
	6. S D	BC
	7. S D	Same
	8. S D	RR
	9. S D	RR
.....	10. S D	BC

6. Association Learning (check correct pairs)

S	R
___ mirror	toothbrush
___ clock	balloon
___ scissors	ring
___ matches	key
___ button	spoon
___ bandaid	bow

7. Classification Skill
(check if cqt. choice; check if cqt. classif.)

choice	classif.	
___	___	clothing
___	___	food (fruit)
___	___	transportation
___	___	furniture

omments:

___ Frustration 1-low 2-mild 3-high
___ Distractability 1-low 2-mild 3-high
___ Task attention 3-high 2-mild 1-low
___ Task termination, tasks: _____

___ Speech/language
Explain:

___ Distracting screening conditions
Explain:

___ Non-English, used translator
___ Non-English, no translator

APPENDIX C

EVANSTON SPEECH AND LANGUAGE SCREENING PACKET

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SPEECH AND LANGUAGE STATION

TASK	DIRECTIONS FOR ADMINISTRATION
1). Spontaneous Speech: observation of child's normal communicative abilities.	Show child one of the pictures or a series of pictures saying: "Tell me a story about this picture." Often more prompting is required so that a good sample of spontaneous speech is obtained.
2). Articulation Sample: determine if child's articulation is adequate for communication.	As each picture is individually presented to the child, ask "what is this?" Stimulate for misarticulated sounds. If certain sound is misarticulated, say the sound correctly, try to have child copy the correct production, first in isolation then in a word. For example, if the child says balentine for Valentine note this and return to this sound following the last picture (flag). Try to elicit the V Sound from the child, saying "Now listen carefully and watch my mouth -- V, V, V, V; now you say it." Note if child says sound correctly. Now say, "Now listen carefully and watch my mouth--valentine, valentine, valentine. Now you say it." Record the child's response. Continue for the other misarticulated sounds.
*** If no errors have been made up to this point, the Speech and Language Screening is completed. If, however, the child has made some errors, go through the rest of the test.	Throughout this portion of the screening, questions are asked about the pictures, or conversation is made by the tester about varous topics, as a means of sampling the child's understanding of speech and language.

TASK	DIRECTIONS FOR ADMINISTRATION
3). Auditory Discrimination: to determine if child can hear the difference between two similar sounding words, testing the ability to differentiate cognates.	Depending on the child's performance, all of the auditory discrimination pictures may be presented, or just the ones corresponding to the sounds misarticulated in the articulation naming sample. Show one card at a time to the child, saying "Point to the picture that I name. Ready? Show me wing." Proceed through the cards, having the child point to the picture named. It does not matter which picture is named by the tester.
4). Auditory Memory:	
Digits:	Say "I will say some numbers, then I want you to say them back to me. Ready? 6-4-1," etc.
Sentences:	Say "Now I will say some words, then I want you to say them back to me. Ready? We are going to buy some candy," etc.
5). Following Directions:	Say "I am going to tell you some things to do. Listen carefully and do what I say when I finish talking. Ready? Stand-up, clap you hands, point to your shoes," etc.
	Next, show the child the box and the block, saying "This is a block and this is a box. Now put the block in the box; now put the block on the box; now put the block under the box; now put the block in front of the box; now put the block in back of the box."
6). Physiologic Support for Speech: adequate oral structures are necessary to correct speech production.	Look in child's mouth, examining the oral structures and functions, including velopharungeal closure and diadochokinetic rate.

TASK	DIRECTIONS FOR ADMINISTRATION
7). Voice and Fluency:	Throughout screening, observe the voice quality and fluency of child's speech.
8). Frustration Level:	Observe throughout screening.

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XXXIII

SCORING PROCEDURES	BASIS FOR DIAGNOSTIC FOLLOW-UP
1). Note any language, voice, articulation, or fluency errors, according to the rating scale that follows this section. Also decide if child's story was interesting, creative, and related to picture.	The child's skills are compared to the normative data and his performance is rated. All receiving a rating of 4 or 5 should be seen for further evaluation. (Laura Lee's Developmental Sentence Types are used as one criterion for evaluation.)
2). Note articulation errors on the line; a check ( ) indicates correct articulation. Record All responses to the stimulation of the sound in isolation and in word.	The child's articulation is more specifically evaluated as he names the preselected pictures. His articulation performance is compared to the normative data (Templin-Darley) and is rated 1 - 5. All 4's and 5's should be further evaluated. Generally articulation errors of omission are most severe, followed by substitution and then distortion errors. If following stimulation, the child can correctly produce the sounds he originally misarticulated, this may be predictive of possible self-improvement. For example, if a child says "wabbit/ rabbit," but on stimulation he produces the r sound in isolation and then says rabbit in direct imitation of the clinician, the research shows that this child's chances of self-correction are better than the child who could not be stimulated for the correct production. The status of the latter child would be more severe than the former's; this would be further indication of necessary follow-up.
3). Note the child's response as + for correct, and - for incorrect.	The child who cannot discriminate auditorally between two sounds (as the W and R - wabbit and rabbit) has a more severe problem than the child who can make the differentiation. Failure to discriminate auditorally would be a further indication for follow-up.

SCORING PROCEDURES	BASIS FOR DIAGNOSTIC FOLLOW-UP
4). Record the numbers that the child says. Record child's response.	A four to five year old child should be able to repeat 4 digits and the longest sentence presented in the screening. Failure to do so would be further indication for follow-up.
5). Record child's response. Record child's responses after each instruction.	A four to five year old child should be able to follow all of the directions as listed. Failure to do so would be further indication for follow-up.
6). Note irregularities.	Any physiological irregularities affecting the child's ability to communicate intelligibly should be further evaluated in depth.
7). Write comments on Scoring Sheet when indicated.	All voice or fluency problems given the rating of 4 or 5 would require further diagnostic evaluation.
8). Note frustration level as compared to other testees.	

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Speech Rating Scale

Language Problems:

#5 Language is severely atypical for child's mental age and demonstrates a combination of differences in semantic and syntactic development.

#4 Problem is quantitatively and qualitatively less severe than #5, but still demonstrates more than one type of language problem.

#3 Less severe language difference but should be rechecked.

#2 Developmental and environmental language difference that is not hampering communication.

#1 No problem.

Articulation Problems:

#5 Multiple, severe articulation problems with intelligibility greatly impaired.

#4 Severe distortions and substitutions resulting in reduced intelligibility.

#3 Sufficient articulation difference to enroll if time is available, but intelligibility unaffected.

#2 Slight difference judged to be developmental or environmental. Intelligibility unaffected.

#1 No problem.

Voice Problems:

#5 The quality, resonance or pitch is deviant enough to call attention to itself.

#4 Some people may be aware of voice problem, but not all with whom client comes in contact are aware of the problem.

#3 Person suffers from some hoarseness, but others are not aware of problem.

#2 Suffers from occasional or slight hoarseness.

#1 No problem.

Fluency Problems:

#5 Person exhibits hard blocks in stuttering and struggling behavior in speech.

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Fluency Problems: (continued)

#4 Indirect therapy indicated because child is unaware of his lack of fluency. Therapist will deal with parents and teachers.

#3 Demonstrates easy repetitions. May have been previously enrolled and is being rechecked periodically.

#2 Speech is easy flowing most of the time. Teacher and/or parent may be advised to keep speaking situations relaxed for this child.

#1 No problem.

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ARTICULATION AND LANGUAGE:

1. Spontaneous Speech _____

2. ARTICULATION SAMPLE:

Candle_____	Elephant_____	Thumb_____	Sandwich_____
Feather_____	Rabbit_____	Scissors_____	Zipper_____
Valentine_____	Bridge_____	Squirrel_____	Shovel_____
			Flag_____

STIMULATABILITY:

Isolation Word

3. AUDITORY DISCRIMINATION:

wing-ring_____	coat-goat_____	dime-time_____	bear-pear_____
tree-three_____	sheep-jeep_____	light-white_____	nail-mail_____

4. AUDITORY MEMORY:

Digits

6-4-1_____ 4-7-2-9_____
3-5-2_____ 3-8-5-2_____
8-3-7_____ 7-2-6-1_____

Sentences

We are going to buy some candy.
Jack likes to feed the little puppies.
Jane wants to build a big castle in her playhouse.

5. FOLLOWING DIRECTIONS:

Stand up, clap your hands, point to your shoes_____. Put the block in the box_____, on the box_____, under the box_____, in front of the box _____, in back of the box_____, beside the box_____.

6. PHYSIOLOGIC SUPPORT FOR SPEECH:

Structure	Function
Lips_____	Lips_____
Teeth_____	Tongue_____
Tongue_____	_____
Hard Palate_____	VPH Closure_____
Soft Palate_____	Diado Rate_____
Tonsils_____	_____

VOICE

1. Pitch
2. Loudness
3. Resonance
4. Quality
5. Other

FLUENCY:

COMMENTS

FRUSTRATION LEVEL: 1 Low 2 Medium 3 High

APPENDIX D

DENVER DEVELOPMENTAL SCREENING TEST

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